AMENDMENTS TO THE CLAIMS

All claims currently pending and under consideration in the present application are shown below. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A computer-implemented method for displaying a warning that a clinical agent received from a clinician should not be administered to a person, comprising the steps of:

initially receiving from a clinician clinical agent information, the clinical agent information including an identifier of a specific clinical agent and a dosage of the specific clinical agent, wherein receiving includes receiving a selection of an entry in a listing of clinical agents on a graphical user interface and a selection of the dosage from a range of dosages recommended for the clinical agent associated with the selected entry;

identifying each of the genes associated with the clinical agent by comparing the identifier of the clinical agent received from the clinician to a first data set containing agent-gene associations, wherein the associated genes are likely to interact with the clinical agent to result in an atypical clinical event;

when a gene is associated with the clinical agent, automatically obtaining a genetic test result value for the associated gene of a person, wherein automatically obtaining comprises:

(a) receiving identification of the person to whom the clinical agent is to be administered and proper authorization to access an electronic medical record (EMR) of the person; and

(b) utilizing the identification and the proper authorization from the clinician to access patient information within the EMR of the person stored within a comprehensive healthcare system;

when the patient information comprises the genetic test result value for the associated gene of a person, comparing the genetic test result value to the second data set containing one or more polymorphism values associated with one or more atypical clinical events for the clinical agent;

otherwise, performing the following procedure:

(a) seeking a clinician's authorization for a test by presenting a genetic test ordering window; and

(b) automatically ordering ~~a~~ the test to determine the genetic test result value for the associated gene of a person when the test is available and ~~is~~ the authorization ~~authorized~~ is granted by a clinician at the genetic test ordering window;

determining whether the genetic test result value correlates to one or more of the one or more polymorphism values contained in the second data set; and

when the genetic test result value correlates to one or more of the one or more polymorphism values, displaying a warning to the clinician that the clinical agent received from the clinician should not be administered, and recording an indication of the warning in the EMR of the person.

2. (Original) The method of claim 1, wherein the clinical agent information includes a dosage of the identified clinical agent.

3. (Original) The method of claim 1, wherein the clinical agent information is received over a communication network from a remote computer.

4. (Previously Presented) The method of claim 1, wherein the step of determining if a gene is associated with the clinical agent includes querying the first data set containing agent-gene associations and determining if a gene has one or more variants associated with an atypical response to the identified clinical agent.

5. (Previously Presented) The method of claim 4, wherein the gent has one or more variants associated with an atypical response to the identified clinical agent.

6. (Original) The method of claim 4, further comprising the step of initiating a clinical action if a gene has at least one variant associated with an atypical response to the identified clinical agent.

7. (Canceled).

8. (Withdrawn) The method of claim 6, wherein the clinical action is ordering a genetic test for the person.

9. (Withdrawn) The method of claim 6, wherein the clinical action is canceling another clinical action.

10. (Canceled).

11. (Previously Presented) The method of claim 1, wherein the first data set of agent-gene associations may be updated.

12. (Previously Presented) The method of claim 1, wherein the second data set includes information about risks associated with the atypical clinical event.

13. (Previously Presented) The method of claim 12, wherein the step of outputting information includes accessing the risk information in the second data set.

14. (Previously Presented) The method of claim 1, wherein the first data set and the second data set are incorporated into a single data set.

15. (Canceled).

16. (Previously Presented) The method of claim 1, wherein the clinical agent information includes a dosage of the identified clinical agent, and wherein the second data set includes information about risks associated with various dosages of the identified clinical agent.

17. (Withdrawn) The method of claim 1, further comprising the step of outputting information that the person is not at risk if the genetic test result value does not correlate to a polymorphism value.

18. (Currently Amended) A computer system for displaying a warning that a clinical agent received from a clinician should not be administered to a person, comprising;

a receiving component that receives from a clinician clinical agent information, the clinical agent information including an identifier of a specific clinical agent and a dosage of the specific clinical agent;

a first determining component that determines whether a gene is associated with the clinical agent by comparing the identifier of the clinical agent received from the clinician to the first data set containing agent-gene associations,

when the clinical agent is not associated with a gene from the first data set, the first determining component approves administration of the clinical agent;

an obtaining component for obtaining a genetic test result value for the associated gene of a person when a gene is associated with the clinical agent;

a comparing component for comparing the genetic test result value to a second data set containing one or more polymorphism values associated with one or more atypical clinical events for the clinical agent at the dosage received;

a second determining component that determines whether the genetic test result value correlates to one or more of the one or more polymorphism values contained in the second data set;

a third determining component that performs a procedure comprising:

(a) incident to determining that the genetic test result value correlates to one or more of the one or more polymorphism values, accessing the second data set;

(b) utilizing ~~utilizes~~ the second data set to determine whether a risk of damage from not administering the clinical agent is greater than the risk of damage by lowering the dosage of the clinical agent, and

(c) ~~prescribes~~ indicating a lower dosage of the clinical agent be prescribed when the risk of damage is less than not administering the clinical agent; and

a displaying component that performs a procedure comprising:

(a) ~~when~~ receiving an indication from the third determining component that the risk of damage of not administering the clinical agent is less than lowering the dosage of the clinical agent[[,]]; and

(b) displaying ~~displays~~ in a notification window a warning to the clinician that the clinical agent ~~received from the clinician~~ should not be administered to the person ~~upon a determination that the genetic test result value for the person correlates to one or more of the polymorphism values associated with one or more atypical clinical events~~, wherein the notification window surfaces a selectable area for accessing information regarding the one or more of the polymorphism values, and wherein the notification window displays an alternative clinical agent that does not correlate with the genetic test result value.

19. (Canceled).

20. (Original) The computer system of claim 18, wherein the clinical agent information is received over a communication network from a remote computer.

21. (Previously Presented) The computer system of claim 18, wherein the first determining component includes a querying component that queries the first data set containing agent-gene associations, and wherein the system further comprises a third determining component that determines if a gene has one or more variants associated with an atypical response to the identified clinical agent.

22. (Previously Presented) The computer system of claim 21, wherein the gene has one or more variants associated with an atypical response to the identified clinical agent.

23 (Original) The computer system of claim 21, further comprising an initiating component that initiates a clinical action if a gene has at least one variant associated with an atypical response to the identified clinical agent.

24. (Canceled).

25. (Withdrawn) The computer system of claim 23, wherein the clinical action is ordering a genetic test for the person.

26. (Withdrawn) The computer system of claim 23, wherein the clinical action is canceling another clinical action.

27. (Previously Presented) The computer system of claim 18, wherein the obtaining component is configured to obtain the genetic test result value from an electronic medical record of the person stored within a comprehensive healthcare system.

28. (Previously Presented) The computer system of claim 18, wherein the first data set of agent-gene associations may be updated.

29. (Previously Presented) The computer system of claim 18, wherein the second data set includes information about risks associated with the atypical clinical event.

30. (Previously Presented) The computer system of claim 29, wherein the outputting component includes an accessing component that accesses the risk information in the second data set.

31. (Previously Presented) The computer system of claim 18, wherein the first data set and the second data set are incorporated into a single data set.

32. (Canceled).

33. (Previously Presented) The computer system of claim 18, wherein the clinical agent information includes a dosage of the identified clinical agent, and wherein the second data set includes information about risks associated with various dosages of the identified clinical agent.

34. (Withdrawn) The computer system of claim 18, further comprising a second outputting component that outputs information that the person is not at risk if the genetic test result value does not correlate to a polymorphism value.

35. (Currently Amended) A computer-readable medium containing instructions for controlling a computer system for displaying a warning that a clinical agent received from a clinician should not be administered to a person, by:

receiving from a clinician clinical agent information, the clinical agent information including an identifier of a specific clinical agent;

determining if a gene is associated with the clinical agent by comparing the identifier of the clinical agent received from the clinician to a first data set containing agent-gene association;

when a gene is associated with the clinical agent, attempting to obtain a genetic test result value for the associated gene of the person by accessing patient information within an electronic medical record (EMR) of the person, wherein the EMR is stored within a comprehensive healthcare system;

when the genetic test result value is obtained from the EMR, comparing the genetic test result value to a second data set containing one or more

polymorphism values associated with one or more atypical clinical events for the clinical agent;

determining whether the genetic test result value correlates to one or more of the one or more polymorphism values contained in the second data when the genetic test result value correlates to one or more of the one or more polymorphism values, displaying a warning to the clinician that the clinical agent received from the clinician should not be administered;

when the genetic test result value cannot be obtained from the EMR, calculating the likelihood that the person displays a genetic mutation linked to the gene associated with the clinical agent based on genetic variability of the gene within the general population; and

constructing a message to communicate the calculated likelihood of the genetic mutation and any atypical clinical events that are associated therewith, wherein the message is utilized by the clinician to ascertain whether to order a test to obtain the genetic test result value.

36. (Original) The computer-readable medium of claim 35, wherein the clinical agent information includes a dosage of the identified clinical agent.

37. (Original) The computer-readable medium of claim 35, wherein the clinical agent information is received over a communication network from a remote computer.

38. (Previously Presented) The computer-readable medium of claim 35, wherein the step of determining if a gene is associated with the clinical agent includes querying

the first data set containing agent-gene associations and determining if a gene has one or more variants associated with an atypical response to the identified clinical agent.

39. (Previously Presented) The computer-readable medium of claim 38, wherein the gene has one or more variants associated with an atypical response to the identified clinical agent.

40. (Original) The computer-readable medium of claim 38, further comprising the step of initiating a clinical action if a gene has at least one variant associated with an atypical response to the identified clinical agent information.

41. (Canceled).

42. (Withdrawn) The computer-readable medium of claim 40, wherein the clinical action is ordering a genetic test for the person.

43. (Withdrawn) The computer-readable medium of claim 40, wherein the clinical action is canceling another clinical action.

44. (Previously Presented) The computer-readable medium of claim 35, wherein obtaining a genetic test result value for the associated gene of the person comprises obtaining the genetic test result value from an electronic medical record of the person stored within a comprehensive healthcare system.

45. (Previously Presented) The computer-readable medium of claim 35, wherein the first data set of agent-gene associations may be updated.

46. (Previously Presented) The computer-readable medium of clam 35, wherein the second data set includes information about risks associated with the atypical clinical event.

47. (Previously Presented) The computer-readable medium of claim 46, wherein the step of outputting information includes accessing the risk information in the second data set.

48. (Previously Presented) The computer-readable medium of claim 35, wherein the first data set and the second data set are incorporated into a single data set.

49. (Original) The computer-readable medium of claim 35, wherein the output information includes a message containing a warning of a patient specific risk.

50. (Previously Presented) The computer-readable medium of claim 35, wherein the clinical agent information includes a dosage of the identified clinical agent, and wherein the second data set includes information about risks associated with various dosages of the identified clinical agent.

51. (Withdrawn) The computer-readable medium of claim 35, further comprising the step of outputting information that the person is not at risk if the genetic test result value does not correlate to a polymorphism value.